2nd Workshop on Self-Awareness in Reconfigurable Computing Systems (SRCS'13)

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edited by
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Preface

The field of modern computing sees a continuing trend towards increasingly complex, parallel and heterogeneous architectures as well as distributed and dynamic applications. These developments call for new approaches to design and operate systems that are capable of dealing with uncertainty and changing behaviour. Self-awareness is an emerging field of research in computing that considers systems and applications that gather and maintain information about their current state and environment, reason about their behaviour, and adapt themselves if necessary.

Reconfigurable computing systems, such as the ones using FPGAs, are capable of delivering high performance and efficiency combined with flexibility, and research in reconfigurable applications is well established. We are, however, interested in further reaching applications of reconfigurability to address the challenges mentioned above. Properties such as self-organisation, self-optimisation or self-healing can act as a means to improve flexibility, performance or reliability of applications targeting reconfigurable hardware. Self-awareness extends this line of research and includes aspects such as reasoning, learning and intelligence to a run-time adaptive system.

The Workshop on Self-Awareness in Reconfigurable Computing Systems (SRCS) was created to bring together researchers who are active in this field, present their current work, and share their concepts and visions of self-aware systems. The topics of interest for this workshop are:

- Concepts and foundations of self-aware systems.
- Architectures, control, instrumentation and infrastructure for self-aware systems.
- Algorithmic approaches for self-awareness.
- Tools for engineering self-aware systems.
- Advanced autonomous and self-adaptive systems.
- Self-awareness and adaptation in heterogeneous and distributed systems.
- Run-time techniques for adaptive behaviour, including dynamic reconfiguration.
- Applications using self-awareness or self-adaptivity.
- Emergence of self-awareness in adaptive systems.

The second edition of this workshop was held on 5. September 2013 in Porto, Portugal, and co-located with the 2013 International Conference on Field Programmable Logic and Applications (FPL). Of all papers submitted to this workshop, 7 were selected for presentation. In addition, we were able to attract 2 invited talks from established academics in the field, resulting in a diverse program that covers many aspects of self-aware systems. We would like to thank all authors for submitting their work to the workshop. We would also like to thank the program committee for reviewing papers and helping with the paper selection. We gratefully acknowledge the financial support of Awareness, a FET coordination action funded by the European Commission under FP7. Special thanks go the the FPL organisers who helped us co-locating this workshop with FPL 2013.

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